

LDS POST FALLS (PWSNO 1280264) SOURCE WATER ASSESSMENT REPORT

January 29, 2002



State of Idaho Department of Environmental Quality

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SOURCE WATER ASSESSMENT FOR LDS POST FALLS

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within the well recharge zone, your water quality history, construction characteristics associated with your well or wells, and site specific sensitivity factors associated with the aquifer your water is drawn from.

This report, *Source Water Assessment for LDS Post Falls* describes the public drinking water source, potential contaminant sites located inside in the well recharge boundaries, and the susceptibility (risk) that may be associated with potential contaminants. For systems drawing from the Rathdrum Prairie Aquifer DEQ used a refined computer model approved by the EPA to map the boundaries of the well recharge area. The delineations are divided into time of travel zones indicating the number of years necessary for a particle of water to reach a well from the zone boundary. The computer model used data DEQ assimilated from a variety of sources including well logs in the vicinity of the LDS Post Falls well.

This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Potential Contaminant Inventory. The LDS Post Falls public water system serves a church facility located at E 2150 16th Ave in Post Falls, Idaho. The recharge zone for the well is a narrow corridor encompassing 63 acres and stretching south and east ward from the well for about two miles. The recharge zone is divided into 0-3, 3-6 and 6-10 year time of travel zones. Land use in the delineated area is a mix of residential and agricultural, with a small area of commercial activity in the 6-10 year time of travel zone adjacent to Highway 41. Interstate 90 also crosses the 6-10 year TOT boundaries. Other than the highways, the only potential contaminant site documented inside the LDS Post Falls well recharge zone is an automotive repair and service shop. Numbers on the table below correspond to numbers on the map accompanying this report.

Table 1. LDS Post Falls Potential Contaminant Inventory

Map ID	Site Description	Potential Contaminants	Source of Information
1	Automotive Service & Repair	IOC, SOC, VOC	Business Mailing List
2	State Highway 41	IOC, SOC, VOC, Microbial	County Map
3	Interstate 90	IOC, SOC, VOC, Microbial	County Map

IOC = Inorganic Chemical , SOC = Synthetic Organic Chemical, VOC = Volatile Organic Chemical

Water Quality History. LDS Post Falls, under regulation as a non-community transient public water system, is required to monitor quarterly for bacterial contamination. A well, located northeast of the church, was disconnected in 1995 because of bacterial problems. Since that time, the system has had only one positive total coliform bacteria sample. The presence of bacteria was not confirmed in subsequent testing. The system tests annually for nitrate contamination. Nitrate concentrations have ranged between 1.03 and 3.83 mg/l. The Maximum Contaminant Level (MCL) for nitrate is 10.0 mg/l.

Well Construction. The LDS Post Falls well was drilled 1992 to a depth of 321 feet. The well has a 6-inch casing extending 12 inches above ground surface and fitted with a water tight, vented sanitary well cap. The casing is perforated from 308 to 318 feet, and the well is gravel packed from 306 to 321 feet below the surface. The bentonite clay surface seal is 20 feet deep. A sanitary survey conducted March 18, 1996, found the water system to be mostly in compliance with *Idaho Rules for Public Drinking Water Systems*.

Well Site Characteristics. Soils in the well recharge zone are predominately moderately well to well drained. Soils in this drainage classification provide little protection against migration of contaminants toward the well. The soil above the water table at the well site is composed entirely of sand and gravel according to the well log obtained from Idaho Department of Water Resource.

Susceptibility to Contamination. DEQ analyzed the susceptibility of the LDS Post Falls well to contamination using information from the well log, the public water system file and the potential contaminant inventory. The well as at moderate risk from all classes of regulated contaminants. The susceptibility analysis worksheet for your well on page 6 this report shows how your well scored. Most of the points accrued in the final susceptibility scores are due to natural risk factors associated with the geology of the Rathdrum Prairie Aquifer. Formulas used to compute the final susceptibility scores are at the bottom of the worksheet. .

Drinking Water Protection. This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

The state and local health districts have instituted enhanced protection of the ground water in the Rathdrum Prairie Aquifer because of its high use and uniquely pristine water quality. The protections are generally aquifer wide and are not aimed at zones of contribution to a specific well or water system. *The Spokane Valley-Rathdrum Prairie Atlas*, sent to water systems on the prairie when they were invited to perform an enhanced contaminant inventory, describes some of the regional protection measures.

The 186 public water systems in Idaho that draw water from the Rathdrum Prairie Aquifer should consider forming a regional group to represent their interests before state, county and municipal governing bodies when regulatory tools like zoning overlays, or enactment of building codes are the most appropriate ground water protection measures. These types of measures could be used to protect the capture zones of a specific system or group of wells that could be put at risk from local land use changes.

For LDS Post Falls drinking water protection activities should focus first on maintaining the sanitary setback zone (50-foot radius around the well) as an area free from the use or storage of lawn maintenance chemicals like fertilizer, pesticides or herbicides. It is also important to keep petroleum products or parked vehicles away from this area.

The system needs to install a double check valve on the irrigation line to prevent contamination of the well with bacteria and other pollutants siphoned into the system during periods of low pressure.

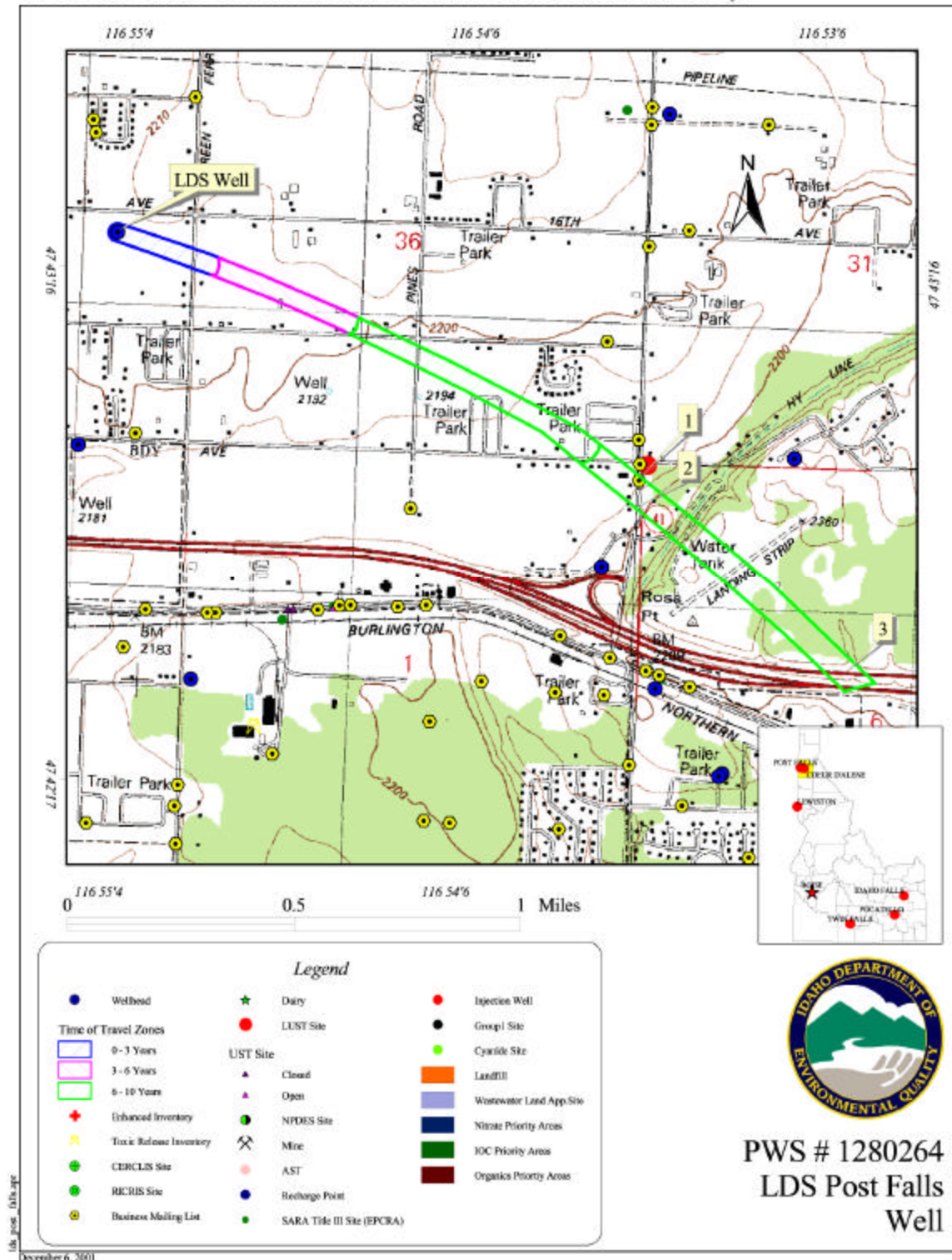
Because the water system does not have direct jurisdiction over the entire recharge zone for its well, it will be important to form partnerships with neighbors, and public agencies to regulate land uses that can degrade ground water quality. For instance, source water protection activities for agriculture, an important land use in the LDS Post Falls recharge zone, should be coordinated with the Idaho State Department of Agriculture, local Soil Conservation District, and the Natural Resources Conservation Service. The goal of drinking water protection is to maintain current water quality for the future despite the changes we can expect with population growth in North Idaho.

For assistance in developing source water protection strategies please contact Sheila Bruning or Shantel Apraricio at the Coeur d'Alene Regional DEQ office at 208 769-1422.

DEQ website:

<http://www.deq.state.id.us>

LDS Post Falls Delineation and Potential Contaminant Inventory.



December 6, 2001

Ground Water Susceptibility

Public Water System Name : **LDS POST FALLS**

Source: **WELL**

Public Water System Number : **1280264**

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1. System Construction		SCORE			
Drill Date	7/7/92				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES 1996				
Well meets IDWR construction standards	YES	0			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		3			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		6			
3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		IOC	VOC	SOC	Microbial
		Score	Score	Score	Score
Land Use Zone 1A	URBAN/RESIDENTIAL	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		2	2	2	2
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	NO	0	0	0	0
(Score = # Sources X 2) 8 Points Maximum		0	0	0	0
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		0	0	0	0
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
Potential Contaminant Source / Land Use Score - Zone II		2	2	2	0
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		2	2	2	0
Cumulative Potential Contaminant / Land Use Score		6	6	6	2
4. Final Susceptibility Source Score		10	10	10	10
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

The final scores for the susceptibility analysis were determined using the following formulas:

- VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)
- Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

- 0 - 5 Low Susceptibility
- 6 - 12 Moderate Susceptibility
- > 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.